

The Claims

We claim:

1. A system for managing fleet vehicle preventative maintenance requirements comprising a series of a means to transmit a vehicle maintenance trigger to a remote location ("means to transmit"), each of said series of said means to transmit positionable on one of said vehicles in said fleet and adapted to receive maintenance trigger signals from said vehicle; a means to determine maintenance requirements of a vehicle based upon a transmitted maintenance trigger ("means to determine"), said means to determine located remotely from said fleet of vehicle and communicating periodically with each of said means to transmit; and a means to alert maintenance personnel of vehicles requiring maintenance as identified by said means to determine ("means to alert"), said means to alert communicating with said means to determine, said means to alert being remote from said means to determine.
2. The system according to claim 1 wherein said means to transmit further transmits a vehicle identifier.
3. The system according to claim 1 wherein said means to determine includes a computer communicating to said means to transmit and said means to alert though a network.
4. The system according to claim 3 wherein said means to alert further comprises a touch screen.

5. The system according to claim 1 wherein said means to alert further comprises a computer station having a visual display device.

6. The system according to claim 5 wherein said computer station is a personal digital assistant.

7. The system according to claim 1 further having a computer readable memory accessible by said means to determine, said memory having stored therein vehicle specific maintenance schedules indicating recommended maintenance intervals for scheduled maintenance, each scheduled maintenance having associated maintenance tasks.

8. The system according to claim 7 wherein said vehicle specific maintenance schedules contains recommended parts associated with each maintenance task.

9. In combination with a computer system comprising a host processor and a database accessible by the host processor and at least one maintenance response station communicating with said host processor, said database having stored thereon vehicle specific maintenance schedules indicating recommended maintenance intervals for scheduled maintenance, each scheduled maintenance having associated maintenance tasks, a method of managing the preventative maintenance requirements on a fleet of vehicles, the method comprising the steps of :

a. periodically receiving signals at the host processor containing maintenance trigger data associated with a specific vehicle in said fleet of vehicles;

b. comparing each of said received maintenance trigger data to maintenance schedule data;

c. for each comparison in step b, determining whether maintenance is indicated on said vehicle associated with said maintenance trigger data;

d. if maintenance is indicated, identifying said vehicle at said vehicle response station.

10. The method of claim 9 further including the steps of receiving a request from at least one of said response stations to detail said scheduled maintenance associated with said identified vehicle and in response to said request, displaying said maintenance tasks associated with said maintenance at said response station.

11. The method of claim 9 further including the steps of receiving a request from said response station to create a maintenance work order for said identified vehicle and said indicated maintenance, and in response to said request, opening in said database a work order record, and displaying portions of said open work order record at said requesting response station.

12. The method of claim 11 further including the steps of receiving requests from said response station to edit said open work order record, and editing said open work order record in response to said requests.

5 13. The method of claim 9 wherein said vehicles in said fleet of vehicles are mechanized outdoor application vehicles.

14. The method of claim 13 wherein said mechanized outdoor application vehicles are utilized at golf courses.

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15. The method of claim 11 wherein said maintenance trigger data includes an engine hour meter reading or an odometer reading.

16. The method of claim 11 further including the step of receiving a request from said
15 response station to close an open work order record, and in response to said request, closing said open work order and storing said closed work order in said database.

17. In combination with a computer system comprising a host processor and a database accessible by said host processor, said computer system receiving periodic
20 updates of maintenance trigger data from a fleet of vehicles, said database containing maintenance schedules applicable to a plurality of said vehicles, said maintenance schedules indicating recommended maintenance intervals for scheduled maintenance and for each said scheduled maintenance, said database containing maintenance tasks

and parts recommended for said maintenance tasks, a method to predict parts inventory requirements for a plurality of said series of vehicles comprising the steps of:

- (a) selecting a window within which to predict parts requirements;
- (b) predicting said maintenance trigger data for a series of said vehicles for
5 said selected window, said prediction computed from said stored maintenance trigger data for said plurality of vehicles;
- (c) comparing said predicted maintenance trigger data against the applicable said maintenance scheduled data to determine if recommended maintenance is indicated in said window;

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18. The method of claim 17 further comprising the step of (d) for a subset of said series of vehicles where maintenance is indicated, assembling a list of parts recommended for said subset of vehicles.

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19 The method of claim 18 wherein said database contains an inventory of parts available to perform said predicted maintenance, and said method further comprises the steps of comparing said assembled parts lists against said available parts inventory to
20 calculate an inventory shortfall for said parts.

20. The method of claim 19 wherein said database also contains re-order levels for said parts inventory, and said inventory shortfall for said parts is compared to said re-order levels of said parts to calculate a parts requirement.

- 5 21. In combination with a first computer system comprising a first host processor and a first database accessible by said first host processor, said first computer system receiving periodic updates of maintenance trigger data from a fleet of vehicles, and a second computer system having a second processor and second database, said second database containing maintenance schedules applicable to a plurality of said
- 10 vehicles, said maintenance schedules indicating recommended maintenance intervals for scheduled maintenance and for each said scheduled maintenance, said second database containing maintenance tasks and part associations with said maintenance tasks, said first computer system periodically communicating to said second computer system a subset of said maintenance trigger data, a method to predict parts inventory
- 15 requirements for a plurality of said series of vehicles comprising the steps of:
- (a) selecting a window within which to predict parts requirements;
 - (b) predicting said maintenance trigger data for a series of said vehicles for said selected window, said prediction computed from said stored maintenance trigger data for said plurality of vehicles;
 - 20 (c) comparing said predicted maintenance trigger data against the applicable said maintenance scheduled data to determine if recommended maintenance is indicated in said window;

(d) for a subset of said series of vehicles where maintenance is indicated, assembling a list of parts recommended for said subset of vehicles; where steps (a)-(d) are performed in said second computer system.